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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/727,558	12/05/2003	Seiji Kitayama	19546.0041	8000
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BINGHAM MCCUTCHEN LLP 2020 K Street, N.W. Intellectual Property Department WASHINGTON, DC 20006			EXAMINER MIRZADEGAN, SAEED S	
			ART UNIT 2109	PAPER NUMBER
			MAIL DATE 07/13/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/727,558

Applicant(s)

KITAYAMA, SEIJI

Examiner

Saeed S. Mirzadegan

Art Unit

2144

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☐ Claim(s) \_\_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☒ Claim(s) 5, 10-13, 23-26 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 May 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                      |                                                                   |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____                                                          | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Priority*

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d).

### *Drawings*

2. Figure 11 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to because on Fig. 2, the box containing the codes is pointing to the Type filed of the LCP communication setting option of the frame. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be

canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency.

Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to because in Fig. 1A, the Flag field is marked with an "(A)" which in the disclosure is a designation for the Communication apparatus (Page 13 Line 25). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an

application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

5. The drawings are objected to because in Fig. 2, PPP Unit (45) is also labeled as Link Control. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Art Unit: 2144

6. The drawings are objected to because in Fig. 2, Control Portion Signal point to POS (50). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

7. The disclosure is objected to because of the following informalities: On page 6, line 2; the recited term "constant time" is improper since it is adjustable and therefore not constant. It should be changed to "set time".

Appropriate correction is required.

8. The disclosure is objected to because of the following informalities: On page 6, line 12 & page 7, line 7; the recited term "constant period" is improper since it is adjustable and therefore not constant. It should be changed to "set period".

Appropriate correction is required.

9. The disclosure is objected to because of the following informalities: On page 7, line 26; the recited term "to determination" is improper. It should be changed to "for determination".

Appropriate correction is required.

10. The disclosure is objected to because of the following informalities: On page 8, line 11; the recited term "wasted with" is improper. It should be changed to "discarded by".

Appropriate correction is required.

### ***Claim Objections***

11. **Claim 5** is objected to because of the following informalities: The recited term "operable negotiate" on line 2 is improper. It should be changed to "operable to negotiate".

Appropriate correction is required.

12. **Claims 10-13, 23-26** are objected to because of the following informalities: The recited term "transmission to the data transmission source" is improper. It should be changed to "transmission from the data transmission source".

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

14. **Claims 1, 2, 14, 15** are rejected under 35 U.S.C. 102(e) as being anticipated by Mills et al. (US PGPub. No. 2003/0206564).

15. Regarding **Claim 1, 14** Mills et al. disclose a method and apparatus comprising:
- a. a receiving unit (**Fig. 10, Receiver Circuit 1010**) operable to receive link status flags (**[abstract] line 17-20, necessary information**), the link status flags included in frames received over a data communication link (**[abstract] line 20-21, the flags are part of the preamble of the frame**) in response to link status



flags included in frames transmitted over the data communication link (**[abstract]**  
**line 17-20, Receiver loop**);

b. a link status determination unit (**¶0151, page 13, line 3, an LSP receive timer**) operable to determine whether a condition of the data communication link is normal based on whether the link status flags (**¶0151, page 13, line 3, LSPs**) are received within a predetermined time (**¶0151, page 13, lines 3-7, period defined by the parameters**).

16. Regarding **Claim 2, 15** Mills et al. disclose: the link status determination unit (**¶0151, page 13, line 3, an LSP receive timer**) is further operable to determine that the condition of the data communication link is invalid when the link status flags are not received within the predetermined time (**¶0151, page 13, lines 5-7, If no LSPs are received from the partner PHY within the period defined by the parameter LSP Expiration (LSP\_Exp), the link is assumed to be broken**).

### ***Claim Rejections - 35 USC § 103***

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

19. **Claims 3-13, 16-26** are rejected under 35 U.S.C. 103(a) as being unpatentable over Mills et al. as applied to claims 1 and 14 above, in view of Andra et al. (US Pat. No. 6,349,331).

20. Regarding **Claim 3, 16** Mills et al. does not disclose: a link control unit operable to close the data communication link when the data communication link is determined to be invalid.

21. In the Same field of endeavor, Andra et al. teach (**col. 8, lines 51-52 & 59-61**) The link control disables the communication link when the value for the Link control [X] received from the autonegotiation controller is set to disable.

22. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to combine Mills et al. Method and apparatus for supporting physical layer link-suspend operation between network nodes and Andra et al.

teachings as discussed above to provide the means to exchange information between two devices that share a link segment and to automatically configure both devices to take maximum advantage of their abilities.

23. Regarding **Claim 4, 17** Mills et al. disclose: the link control unit is further operable to open the data communication link when the recovery of the data communication link is determined to be possible (**¶0166, page 15, lines 5-8**) the nature of the LSP, allows a receiving PHY to open the communication link and quickly lock its receive clock to incoming data and quickly nibble align to the incoming data (e.g., the phase of the data signal) so that it can recover the data there.

24. Regarding **Claim 5, 18** Mills et al. does not disclose: a negotiation unit operable negotiate validity or invalidity of the data communication link with a link status determination unit of another device connected to the data communication link.

25. In the Same field of endeavor, Andra et al. teach (**Fig. 2, item 18 & col.1, lines 22-2**) Autonegotiation is a function which provides the exchange of information between the local device and its link partner. A protocol for autonegotiation is specified in ANSI/IEEE Ethernet standard 802.3u-1995, at clause 28. The objective of the autonegotiation function is to provide the means to exchange information between two devices that share a link segment and to automatically configure both devices to take maximum advantage of their abilities.

26. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to combine Mills et al. Method and apparatus for supporting physical layer link-suspend operation between network nodes and Andra et al. teachings as discussed above to provide the means to exchange information between two devices that share a link segment and to automatically configure both devices to take maximum advantage of their abilities.

27. Regarding **Claim 6, 19** Mills et al. does not disclose: the negotiation unit is further operable to transmit information requesting validity or invalidity of the data communication link to the link status determination unit of the other device connected to the data communication link and to receive a response from the link status determination unit of the other device connected to the data communication link.

28. In the Same field of endeavor, Andra et al. teach (**col.1, lines 30-41**) The autonegotiation function allows the devices at both ends of the link segment to advertise abilities, acknowledge receipt and understanding of the common mode(s) of operation that both devices share, and to reject the use of operational modes that are not shared by both devices. Where more than one common mode exists between the two devices, a mechanism is provided to allow the devices to resolve to a single mode of operation using a predetermined priority resolution function. The autonegotiation function allows the devices to switch between the various operational modes in an ordered fashion;

Art Unit: 2144

permits management to disable or enable the autonegotiation function; and allows management to select a specific operational mode.

29. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to combine Mills et al. Method and apparatus for supporting physical layer link-suspend operation between network nodes and Andra et al. teachings as discussed above to provide the means to exchange information between two devices that share a link segment and to automatically configure both devices to take maximum advantage of their abilities.

30. Regarding **Claim 7, 20** Mills et al. disclose: a setting unit operable to set the link status determination unit to a valid or invalid condition (**¶0023, page 2**) the normal and fast link pulse and valid frame detector 214 provides normal and fast link detection for confirming a valid link or an invalid link with another PHY.

31. Regarding **Claim 8, 21** Mills et al. disclose:

c. the setting unit is further operable to set the link status determination unit to an invalid condition (**¶0023, page 2**) the normal and fast link pulse and valid frame detector 214 provides normal and fast link detection for confirming a valid link or an invalid link with another PHY.

32. Regarding **Claim 8, 21** Mills et al. does not disclose:

d. the negotiation unit is further operable to transmit information indicating a valid condition of the link status determination unit to the other device connected to the data communication link .

e. the negotiation unit receives response indicating invalidity of the link status determination unit of the other device connected to the data communication link.

**33.** In the Same field of endeavor, Andra et al. teach (**col.1, lines 30-41**)The autonegotiation function allows the devices at both ends of the link segment to advertise abilities, acknowledge receipt and understanding of the common mode(s) of operation that both devices share, and to reject the use of operational modes that are not shared by both devices. Where more than one common mode exists between the two devices, a mechanism is provided to allow the devices to resolve to a single mode of operation using a predetermined priority resolution function. The autonegotiation function allows the devices to switch between the various operational modes in an ordered fashion; permits management to disable or enable the autonegotiation function; and allows management to select a specific operational mode.

**34.** It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to combine Mills et al. Method and apparatus for supporting physical layer link-suspend operation between network nodes and Andra et al.

Art Unit: 2144

teachings as discussed above to provide the means to exchange information between two devices that share a link segment and to automatically configure both devices to take maximum advantage of their abilities.

35. Regarding **Claim 9, 22** Mills et al. disclose: a link monitoring unit which is operable when the link status determination unit is set to an invalid condition and is operable to transmit an inspection frame to inspect a condition of the data communication link to the other device connected to the data communication line and to determine that a condition of the data communication link is normal upon receiving a response frame for the inspection frame from the other device connected to the data communication line within the predetermined time (**¶0207**) a timer is started to keep track of a predetermined time (SLS) Generally, the predetermined time may be programmed into the PHY. The predetermined time may not exceed a parameter (SLSD), which may be passed to the partner PHY during auto-negotiation. Exceeding SLSD while in SLS may cause the partner PHY to declare the link as failed and thus return to auto-negotiation state to re-negotiate the link. Thus, each PHY must keep track of its duration in SLS. During silent line state, if the PHY transmitter detects the assertion of transmit enable (i.e., TX\_EN=true) , it proceeds to create a data preamble (Test Frame) which comprises the preamble of the LSP.

36. Regarding **Claim 10, 23** Mills et al. disclose:

- f. a transmitter operable to transmit transmission object data received from a data transmission source over the data communication link; (**Fig. 10, Transmitter Circuit 1008**)

37. Regarding **Claim 10, 23** Mills et al. does not disclose:

- g. a data transmission control unit operable to suspend data transmission to the data transmission source when the data communication link is closed.

38. In the Same field of endeavor, Andra et al. teach (**col. 8, lines 51-52 & 59-61**)

The link control disables the communication link when the value for the Link control [X] received from the autonegotiation controller is set to disable).

39. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to combine Mills et al. Method and apparatus for supporting physical layer link-suspend operation between network nodes and Andra et al. teachings as discussed above to provide the means to exchange information between two devices that share a link segment and to automatically configure both devices to take maximum advantage of their abilities.

40. Regarding **Claim 11, 24** Mills et al. disclose: the data transmission control unit is further operable to re-start data transmission to the data transmission source when the data communication link is re-opened (**¶0070, page 6, lines 16-19**) During the SLS,



which is a non-data transmission period, the transmitter power may be turned off to conserve power and then turned back on when there is need to transmit LSPs or data.

41. Regarding **Claim 12, 25** Mills et al. disclose: a transmitter operable to transmit transmission object data received from a data transmission source over a data link layer of the data communication link (**Transmitter Circuit 1008, Fig. 10**).

42. Regarding **Claim 12, 25** Mills et al. does not disclose: a data transmission control unit operable to suspend data transmission to the data transmission source when the data communication link is closed.

43. In the Same field of endeavor, Andra et al. teach (**col. 8, lines 51-52 & 59-61**) The link control disables the communication link when the value for the Link control [X] received from the autonegotiation controller is set to disable.

44. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to combine Mills et al. Method and apparatus for supporting physical layer link-suspend operation between network nodes and Andra et al. teachings as discussed above to provide the means to exchange information between two devices that share a link segment and to automatically configure both devices to take maximum advantage of their abilities.

Art Unit: 2144

45. Regarding **Claim 13, 26** Mills et al. disclose: the data transmission control unit is further operable to re-start data transmission to the data transmission source when the data communication link is re-opened (**¶0070, page 6, lines 16-19**) During the SLS, which is a non-data transmission period, the transmitter power may be turned off to conserve power and then turned back on when there is need to transmit LSPs or data.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Andra et al. US Pat. No. 6883025 teaches Method for autonegotiating multiple devices with a shared autonegotiation controller.

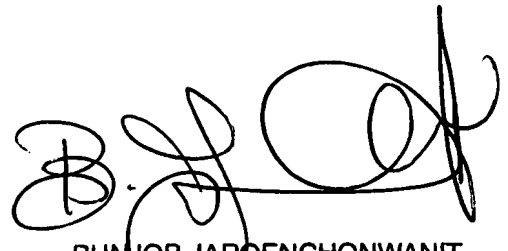
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Saeed S. Mirzadegan whose telephone number is 571-270-3044. The examiner can normally be reached on M-F 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Vaughn can be reached on 571-272-3922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2144

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SSM



BUNJOB JARDENCHONWANIT  
SUPERVISORY PATENT EXAMINER

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